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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/974,855	10/12/2001	Atsushi Kota	Q66657	7448

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EXAMINER	
SHENG, TOM V	

ART UNIT	PAPER NUMBER
2673	

DATE MAILED: 11/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/974,855	KOTA ET AL.	
	Examiner	Art Unit	
	Tom V Sheng	2673	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 September 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 2, and 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kinoshita et al. (US 4,485,379) in view of Kim et al. (US 6,265,833 B1) and Ikarashi et al. (US 5,027,036).

As for claim 15, Kinoshita teaches an image display apparatus (figure 12; EL display device) comprising:

an image display section (EL display panel 8) in which a plurality of light emitting elements (E_{ij}) are arranged in a matrix at intersections of a plurality of scan lines (Y_j) and plurality of data lines (X_i).

Kinoshita further teaches that the EL panel is written one line at a time. See column 9, line 50 through column 10, line 41. Thus, Kinoshita teaches the well-known sequential line-by-line display driving.

However, Kinoshita does not teach a control circuit which selects one of modes as an operation mode in response to a mode switching signal, and outputs a data signal and a scan control signal based on an image signal to be displayed and said selected mode; a row driving section connected to said plurality of scan lines to sequentially drive

said plurality of scan lines based on said scan control signal in a unit determined based on said operation mode; a column driving section connected to said plurality of data lines to sequentially drive said plurality of data lines based on said data signal; an external brightness sensor which detects brightness of a peripheral portion of said image display apparatus; and a CPU which outputs said mode switching signal and said image signal to said control circuit based on designation by a user, and outputs said mode switching signal to said control circuit based on the detected brightness by said external brightness, whereby an image corresponding to said image signal is displayed on said image display section.

Kim teaches a control circuit (controller 3; figure 3) which selects one of modes (second, third, or fourth driving modes; figure 4) as an operation mode in response to a mode switching signal (signal converted by the optical signal converter 2), and outputs a data signal (driving signal at step ST3 in accordance with driving mode selected) based on an image signal to be displayed (inherent) and said selected mode;

a column driving section (driver 4) connected to said plurality of data lines to sequentially drive said plurality of data lines based on said data signal (driving signal);

an external brightness sensor (optical sensor 1 and optical signal converter 2; figure 1) which detects brightness of a peripheral portion of said image display apparatus (senses intensity of light of the outside environment); and

a CPU (done by driving mode selector 3a of controller 3) which outputs said mode switching signal and said image signal to said control circuit based on designation by a user, and outputs said mode switching signal to said control circuit based on the

detected brightness by said external brightness (from driving mode selector 3a to controller 3), whereby an image corresponding to said image signal is displayed on said image display section (panel 5).

It would have been obvious for one of ordinary skill in the art at the time the invention was made to incorporate Kim's invention in an EL panel like Kinoshita's because it allows a viewer a good visibility even with changing ambience lighting without unnecessary power consumption.

Kim/Kinoshita does not teach the same control circuit that also outputs a scan control signal based on the image signal to be displayed and said selected mode and a row driving section connected to said plurality of scan lines to sequentially drive said plurality of scan lines based on said scan control signal in a unit determined based on said operation mode.

Ikarashi teaches an EL display device (ELD 4; figure 1 or 2). Specifically, he teaches that the brightness of an EL display can be boosted by increasing its drive frequency (fig. 4; column 6, lines 2-5).

Ikarashi's teaching presents an alternative to changing driving current and voltage in order to adjust display brightness according to changing ambience lighting. Thus, when ambience lighting is strong, display brightness can be displayed by increasing either driving current or driving frequency, or a combination of the two, and vice versa. Also, since frame rate and corresponding scan rate are directly related to driving frequency in a matrix display, the scan rate is changed whenever the driving frequency is changed.

Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to incorporate Ikarashi's scan rate control into Kim/Kinoshita's EL display, thus providing an additional adjustment parameter to display brightness. Obviously, a scan control signal would be needed in order to control the scan rate.

Claim 1 is rejected per analysis of claim 15. Further, the limitation "wherein a current of said data signal is based on said selected mode" is read by Kim's driving current as determined by a driving mode.

Claim 2 is read by Kinoshita's sequential line-by-line driving.

As for claim 16, one of ordinary skill in the art would recognize that when battery is low, one would desire a lower brightness for power saving sake over desirable display brightness.

As for claim 17, it is certainly desirable for a user to set a nominal brightness of display to his/her liking upon receiving a phone call.

Claim 18 is read by Kinoshita's EL display or Kim's self-emitting display, which can be EL, LED, FED or PDP (column 1, lines 11-16).

3. Claim 3-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kinoshita, Kim and Ikarashi, as applied to claim 1 or 15 above, and further in view of Kuwata et al. (EP Application Publication 0617399 A1).

As to claims 3-5 and 7-14, Kinoshita/Kim is silent as to the specific driving schemes in the double scan or double sequential scan driving methods as claimed. On

the other hand, Kuwata teaches a multiple line selection method where a plurality of scanning lines is selected at a time (column 3, lines 2-25). This would solve the frame response issue (column 1, lines 19-47). Note also that the rows driven together needs not be continuously arranged. Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to incorporate any form of Kuwata's MLS as the scanning method in Kinoshita/Kim's invention, thus further preventing any frame response issue.

As for claim 6, a monochromatic display can be provided simply by turning off the other two color pixels or by making all 3-color pixels same intensity obvious to one of ordinary skill in the art. Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to provide for either color or monochromatic display as the image signal dictates.

Response to Arguments

4. Applicant's arguments with respect to claims 1-18 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tom V Sheng whose telephone number is (703) 305-6708. The examiner can normally be reached on 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on (703) 305-4938. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tom Sheng
November 28, 2004

KENT CHANG
PRIMARY EXAMINER